

**FEDERAL AVIATION ADMINISTRATION  
FLIGHT STANDARDS SERVICE  
ILS STANDARD INSTRUMENT APPROACH PROCEDURE  
TITLE 14 CFR PART 97.29**

Bearings, headings, courses, tracks and radials are magnetic. Elevations and altitudes are in feet, MSL, except HAT, HAA, TCH, and RA. Altitudes are minimum altitudes unless otherwise indicated.  
Ceilings are in feet above airport elevation. Distances are in nautical miles unless otherwise indicated, except visibilities which are in statute miles or feet RVR.

<u>AIRPORT ID</u> KTVC	<u>PROCEDURE NAME</u> ILS OR LOC RWY 28	<u>ORIGINAL/AMENDMENT</u> 15	<u>CITY</u> TRAVERSE CITY	<u>STATE</u> MI		
<u>AIRPORT ELEVATION</u> 624	<u>TDZE</u> 616	<u>SUPERSEDED</u> ILS OR LOC RWY 28	<u>ORIGINAL/AMENDMENT</u> 14B	<u>DATED</u> 03/05/2015	<u>MAG VAR</u> 5W	<u>EPOCH YEAR</u> 1985
<u>FACILITY</u> I-TVC	<u>COORDINATES OF FACILITIES</u>	<u>ACTUAL EFFECTIVE DATE</u> 15 JUNE 2023	<u>REQUIRED EFFECTIVE DATE</u> ROUTINE	<u>CANCEL/SUSPEND</u>		

**TERMINAL ROUTES**

FROM	FIX TYPE	TO	FIX TYPE	LEG TYPE	FO/FB	RNP	COURSE	DISTANCE	ALTITUDE
TVC VOR/DME		MAVLY		TF	FO	1.00	077.90	12.02	3500
KEXXO	IAF	MAVLY	NOPT	TF	FB	1.00	189.11	6.80	3500
ZIVAX	IAF	MAVLY	NOPT	TF	FB	1.00	008.91	6.80	3500
MAVLY/RADAR	IF/IAF	GWENN LOM/INT					278.72	6.34 (I-TVC)	2600

**MISSED APPROACH**

**MAP:**

ILS: DA  
LOC: 5.77 NM AFTER GWENN LOM/INT

**MISSED APPROACH INSTRUCTIONS:**

CLIMB TO 1100 THEN CLIMBING LEFT TURN TO 3000 DIRECT TVC VOR/DME AND HOLD, CONTINUE CLIMB-IN-HOLD TO 3000.

**ALTERNATE MISSED APPROACH INSTRUCTIONS (DO NOT CHART):**

CLIMB TO 1100 THEN CLIMBING LEFT TURN TO 3500 DIRECT GWENN LOM AND HOLD, CONTINUE CLIMB-IN-HOLD TO 3500. (ADF REQUIRED).

**PROFILE:**

1. PT      SIDE OF COURSE      OUTBOUND      FT WITHIN      MILES OF      (IAF)
2. HOLD E MAVLY, RT, 278.72 INBOUND, 3500 FT. IN LIEU OF PT (IAF), MAX 6000.
3. FAC: 278.72      FAF: GWENN LOM/INT      DIST FAF TO MAP: 5.77      DIST FAF TO THLD: 5.77
4. MIN ALT:    MAVLY/RADAR 3500, GWENN LOM/INT 2600, AYATA INT 1440
5. DIST TO THLD FROM OM: 5.77      MM:      IM:      150 HAT:      GS ANT: 940
6. MIN GS INCPT: 2600      GS ALT AT PFAF:      OM: 2496      MM:      IM:
7. GS ANGLE: 3.00      34:1:      20:1:      TCH: 52.0
8. MSA FROM:    GWENN LOM 030-120 3500, 120-030 3100



**PBN REQUIREMENTS NOTE:**

RNP APCH - GPS.

**EQUIPMENT REQUIREMENTS NOTE:**

AIRCRAFT NOT GPS EQUIPPED - RADAR REQUIRED FOR PROCEDURE ENTRY.

**NOTES:**

CHART PROFILE NOTE: VGSI AND ILS GLIDEPATH NOT COINCIDENT (VGSI ANGLE {ANGLE}/TCH {FEET}).  
 CHART NOTE: S-LOC 28 MINIMUMS: FOR INOPERATIVE ALS, INCREASE S-LOC 28 CATS C AND D VISIBILITY TO 2 1/2 SM.  
 CHART NOTE: AYATA FIX MINIMUMS: FOR INOPERATIVE ALS, INCREASE S-LOC 28 CATS C AND D VISIBILITY TO 2 SM.  
 CHART PLAINVIEW NOTE: PROCEDURE NA FOR ARRIVAL ON TVC VOR/DME AIRWAY RADIALS 035 CW 152.

**ADDITIONAL FLIGHT DATA:**

CHART CIRCLING ICON.  
 CHART MINNEAPOLIS CENTER FREQUENCY.  
 1220 AAO 444341N/0852545W.  
 HOLD S, RT, 340.00 INBOUND.  
 CHART IN PLANVIEW: ALTERNATE MA HOLDING, HOLD E GWENN LOM, LT, 278.72 INBOUND.  
 CHART FAS OBST: 1059 TANK (26-001738) 444350N/0853004W.

**MINIMUMS:**

TAKEOFF: SEE FAA FORM 8260-15A FOR THIS AIRPORT

**ALTERNATE:** NA  ILS: STANDARD - NA WHEN LOCAL WEATHER NOT AVAILABLE., NA WHEN CONTROL TOWER CLOSED.; LOC: CAT A, B 900-2, CAT C 900-2 1/2, CAT D 1100-3, NA WHEN LOCAL WEATHER NOT AVAILABLE., NA WHEN CONTROL TOWER CLOSED.

CATEGORY:	A			B			C			D			E			
	FINAL TYPE	DA/MDA	VIS	HAT/HAA	DA/MDA	VIS	HAT/HAA	DA/MDA	VIS	HAT/HAA	DA/MDA	VIS	HAT/HAA	DA/MDA	VIS	HAT/HAA
S-ILS 28	816	1/2	200	816	1/2	200	816	1/2	200	816	1/2	200				
S-LOC 28	1440	1/2	824	1440	3/4	824	1440	1 7/8	824	1440	1 7/8	824				
CIRCLING	1440	1 1/4	816	1440	1 1/4	816	1440	2 1/2	816	1720	3	1096				
AYATA FIX MINIMUMS (Dual VOR Receivers required)																
S-LOC 28	1320	1/2	704	1320	1/2	704	1320	1 5/8	704	1320	1 5/8	704				
CIRCLING	1320	1	696	1320	1	696	1420	2 1/4	796	1720	3	1096				



**CHANGES - REASONS**

1. REMOVED "CIRCLING TO RWY 18 NA AT NIGHT" - NEW TARGETS EVALUATION, NO CIRCLING RESTRICTIONS/FPT REQUEST.
2. ADDED INTERMEDIATE SEGMENT AT MAVLY, RNAV INITIAL SEGMENTS AT KEXXO AND ZIVAX - ATC/FPT REQUEST.
3. CHANGED LINE 2 "HOLD E GWENN LOM, LT, 278.72 INBOUND 2600 FT IN LIEU OF PT (IAF)" TO "HOLD E MAVLY, LT, 278.72 INBOUND, 3500 FT. IN LIEU OF PT (IAF) MAX 6000 - PER ATC/FPT REQUEST AND IAW 8260.19I PARA 8-6-7B(2)(B).
4. ADDED PBN REQUIREMENTS NOTE "RNP APCH - GPS" - IAW 8260.19I PARA 8-6-8.C MEMO.
5. ADDED PBN REQUIREMENTS NOTE "AIRCRAFT NOT GPS EQUIPPED - RADAR REQUIRED FOR PROCEDURE ENTRY" - NOTE ADDED IAW 8260.19 PARA 8-6-8C(3). MEMO.
6. AMENDED S-LOC 28 MINIMUMS FROM "MDA/HAT 1480/864" TO "MDA/HAT 1440/824", VISIBILITIES CHANGED FROM "CAT A 3/4" TO "CAT A 1/2", FROM "CAT C/D 2" TO "CAT C/D 1 7/8" - MDA/HAT CHANGE REFERENCE REVISED EVALUATION AND VISIBILITIES IAW 8260.3E TABLES 3-3-1. 3-3-3 AND 3-3-4.
7. AMENDED CIRCLING CAT A/B FROM "MDA 1480/HAA 856" TO "MDA 1440/HAA 816", CAT C FROM "MDA 1500/HAA 876" TO "MDA 1440/HAA 816" - MDA/HAA CHANGE REFERENCE REVISED EVALUATION AND IAW 8260.3E TABLE 3-3-7.
8. AMENDED S-LOC 28 (AYATA MINS) MINIMUMS FROM "MDA 1360 HAT/744" TO "MDA 1320 HAT/704", VISIBILITIES CHANGED FROM "CAT B 3/4" TO "CAT B 1/2", FROM "CAT C/D 1 3/4" TO "CAT C/D 1 5/8" - MDA/HAT CHANGE REFERENCE REVISED EVALUATION AND VISIBILITIES IAW 8260.3 TABLES 3-3-1 AND 3-3-4.
9. AMENDED AYATA CIRCLING MINIMUMS FROM "CAT A MDA 1360/HAA 736" TO "CAT A MDA 1320/HAA 696", FROM "CAT B MDA 1360/HAA 736" TO "CAT B MDA 1320/HAA 696", FROM "CAT C MDA 1500/HAA 876" TO "CAT C MDA 1420/HAA 796", VISIBILITIES FROM "CAT B 1 1/4 TO CAT B 1" AND FROM "CAT C 2 1/2" TO "CAT C 2 1/4" - MDA/HAA CHANGE REFERENCE REVISED EVALUATION AND IAW 8260.3E TABLE 3-3-7.
10. CHANGED FEEDER FROM "TVC VOR/DME TO GWENN/LOM" TO "TVC VOR/DME TO FIX MAVLY", CHANGED FEEDER TYPE FROM CONVENTIONAL TO RNAV, ADDED LEG TYPE, FO, RNP VALUES AND CHANGE COURSE/DISTANCE/ALTITUDE FROM "054.60/6.50/3000" TO "077.90/12.02/3500" - PER FPT REQUEST AND TVC FLIGHT CHECK RESTRICTIONS.
11. ALTERNATE MISSED APPROACH CHANGED FROM "CLIMB TO 1100 THEN CLIMBING LEFT TURN TO 2600 DIRECT GWENN LOM AND HOLD. (ADF REQUIRED)" TO "CLIMB TO 1100 THEN CLIMBING LEFT TURN TO 3500 DIRECT GWENN LOM AND HOLD, CONTINUE CLIMB-IN-HOLD TO 3500. (ADF REQUIRED) - AIRCRAFT ALTITUDE AT GWENN LOM BELOW 3500, C-I-H REQUIRED.
12. LINE 4 ADDED MAVLY/RADAR 3500 AND CHANGED AYATA ALTITUDE FROM 1480\* TO 1440 -REVISED PROCEDURE DESIGN AND REVISED EVALUATION.
13. CHANGED MSA NAVAID FROM TV LOM TO GWENN LOM - IAW 8260.3E IMPLEMENTATION LETTER, ATTACHMENT 4.
14. REMOVED NOTES \*LOC ONLY AND \*1540 WHEN USING BELLAIRE ALTIMETER SETTING - NO LONGER NEEDED, BACKUP ALTIMETER NOTE MOVED TO -9 - APPROVED BY FPT.
15. CHANGED "AYATA FIX MINIMUMS" NOTE FROM "FOR INOPERATIVE MALSR, INCREASE S-LOC 28 CAT C, D VISIBILITY TO 2 MILES" TO "S-LOC 28 MINIMUMS: FOR INOPERATIVE ALS, INCREASE S-LOC 28 CATS C AND D VISIBILITY TO 2 SM" - UPDATED MINIMUMS AND FORMAT IAW 8260-19I
16. REMOVED NOTE "AYATA FIX MINIMUMS: FOR INOPERATIVE MALSR WHEN USING BELLAIRE ALTIMETER SETTING, INCREASE S-LOC 28 CAT C, D VISIBILITY TO 2 1/2 MILES." - NOTE MOVED TO BACK OF-9 APPROVED BY FPT.
17. REMOVED CHART IN PLANVIEW: (CFBTW) AT 444344.02N/0851942.15W - NOT REQUIRED.
18. REMOVED CHART TVC R-029 AT AYATA - NOT REQUIRED.
19. ADDED PLANVIEW NOTE "PROCEDURE NA FOR ARRIVAL ON TVC VOR/DME AIRWAY RADIALS 035 CW 152 " - IAW 8260.19I PARA 8-2-5.E.(2) & 8260.58B PARA 1-2-5.A.(3).
20. ADDITIONAL FLIGHT DATA ENTRY CHART MINNEAPOLIS CENTER FREQUENCY - IAW 8260.19I 8-2-4B(1).
21. ADDITIONAL FLIGHT DATA ENTRY CHART FAS OBST ELEVATION CHANGED FROM 1050 TO 1059 AND ADDED OBSTACLE ID (26-001738) - IAW 8260.19I 8-6-10C.
22. ADDITIONAL FLIGHT DATA ADDED 7:1 OBSTACLE 1220 AAO 444341N/0852545W - IAW 8260.19I 8-6-10E(2) AND 8-6-10CNOTE.
23. ALTERNATE MINIMUMS ILS ONLY CHANGED FROM CAT A/B 900-2, CAT C 900 2 1/2, CAT D 1100-3, NA WHEN CONTROL TOWER CLOSED, NA WHEN LOCAL WEATHER NOT AVAILABLE TO STANDARD, NA WHEN CONTROL TOWER CLOSED, NA WHEN LOCAL WEATHER NOT AVAILABLE - IAW 8260-3E 3-4-1.
24. LINE 5 GS ANT DISTANCE CHANGE FROM 938 TO 940 - REVISED AIRNAV DATA.
25. LINE 6 OM ALTITUDE CHANGED FROM 2525 TO 2496 - TARGETS DERIVED ALTITUDE.
26. REMOVED NOTE WHEN LOCAL ALTIMETER SETTING NOT RECEIVED, BELLAIRE ALTIMETER SETTING AND INCREASE ALL DA 51 FEET AND ALL MDA 60 FEET, INCREASE S-LOC 28 CAT A AND CIRCLING CAT C VISIBILITY 1/4 MILE; INCREASE AYATA FIX MINIMUMS S-LOC 28 CATS C, D VISIBILITY 1/8 MILE AND CIRCLING CAT C VISIBILITY 1/4 MILE - NOTE MOVED TO BACK OF -9 APPROVED BY FPT.
27. UPDATED MINIMUMS BOX FROM AYATA FIX MINIMUMS TO AYATA FIX MINIMUMS (DUAL VOR RECEIVERS REQUIRED) - IAW 8260.19I 8-6-11N(3)(E)(F).
28. ADDED NOTE S-LOC 28 MINIMUMS: FOR INOPERATIVE ALS, INCREASE S-LOC 28 CATS C AND D VISIBILITY TO 2 1/2 SM - IAW 8260.13E TABLE 3-3-1.

**COORDINATED WITH:**

A4A  ALPA  AOPA  APA  HAI  NBAA  OTHER: ZMP, TVC TWR, AMGR

<b>FLIGHT CHECKED BY</b>	<i>Digitally signed by</i>	<b>OFFICE</b>	<b>DATE</b>
BRIAN P CARSON	<b>JASON KRETSCHMER</b>	FPO	03/30/2023
	Apr 05, 2023		

<b>DEVELOPED BY</b>	<i>Digitally signed by</i>	<b>OFFICE</b>	<b>DATE</b>
JASON KRETSCHMER (CHRISTOPHER MENDENHALL)	<b>JASON KRETSCHMER</b>	AJV-A421	02/14/2023
	Mar 06, 2023		

<b>APPROVED BY</b>	<i>Digitally signed by</i>	<b>OFFICE</b>	<b>DATE</b>	<b>TITLE</b>
MARLON ROBINSON	<b>JASON KRETSCHMER</b>	AJV-A420		MANAGER
	Mar 06, 2023			

